Our mission: Empowering our partners for the digital age!
Fraunhofer IOSB-INA is a leading research institute in the field of industrial automation, providing support on digital transformation to suppliers, mechanical and plant engineers as well as operators of automated technical systems. As a leading research institute in the field of industrial automation we support suppliers, mechanical and plant engineers, as well as operators of automated technical systems in digital transformation.

Our expertise lies in the application knowledge of industrial automation, including networking, analysis, monitoring and user-friendly design of technical systems. Application knowledge of industrial automation – the networking, analysis and monitoring as well as the user-friendly design of technical systems - are our core competencies.

Our business areas:
- Industrial Internet (IIoT)
- Intelligent automation
- Assistance systems
- Cyber security in production

PROFILE

CONTACT

Dr. Holger Flatt
Fraunhofer IOSB-INA
Langenbruch 6
32657 Lemgo

Tel.: +49 5261/94290-31
Fax: +49 5261/94290-90
holger.flatt@iosb-ina.fraunhofer.de
www.fraunhofer-owl.de
**RANGE OF SERVICES**

1. Potential analysis studies for operators of technical systems: We investigate the commercial and technical potential of intelligent sensor systems while taking the existing technical infrastructure and customer specific requirements into account.

2. Design, implementation and integration of system solutions: We create application-specific system solutions based on our technologies for concrete sensor tasks. We focus on synchronized data acquisition, sensor data fusion, sensor data preprocessing as well as the connection to modern communication interfaces.

3. Demonstration, test and evaluation of solutions within the premises of the SmartFactoryOWL or in field tests.

**Boosting Efficiency**

Industrie 4.0 applications can significantly improve the resource efficiency of manufacturing processes. The acquisition of process data via high performance sensor systems, detailed system analytics and optimization are key functions for more performance and efficiency.

Demanding production processes (e.g. plastics processing) rely on the local environment as well as on their respective process data. Hence, environmental information like moisture, temperature, contamination of ambient air and the presence of people can affect the quality of the production.

At Fraunhofer IOSB-INA, we develop smart sensor systems in order to enable production processes to dynamically adapt to changing environmental conditions. The simple integration into plants, the fusion of secondary measurement information as well as the adaptation to environmental changes characterize our solutions. The outcome is a more efficient and more economic operation of production plants.

**Know-How and Resources**

1. Interdisciplinary know-how in mechanical/plant engineering, automation technology, information and communication technology, hardware and software development

2. Laboratories comprising of advanced high-quality measurement and test equipment, climate chamber and radio analyzer for extended tests

3. Living lab SmartFactoryOWL comprising Industrie 4.0 production equipment, labs for cyber security and big data analytics

4. Hardware and software solutions for synchronized real-time data acquisition and connection to communication interfaces: e.g. PROFINET, EtherCAT, OPC UA and cloud connections

**Selected Project References**

1. Acquisition of machine data via SecurePLUGandWORK adapter as a retrofit solution for existing machines

2. Embedded system for the acquisition and communication of process and localization data of mobile waste compactors

3. Intelligent tools for leasing and service applications in the automotive engineering domain based on a smart sensor system

4. Synchronized process data acquisition for distributed automation systems